CLAIMS

1. A method for phase-synchronous supplying of an optical pulsed signal and an electrical data signal to an electrooptical modulator for producing an optical RZ transmission signal, wherein the optical pulsed signal and the electrical data signal are synchronized with respect to an electrical clock signal, the method comprising the steps of:

outputting a portion of the optical RZ transmission signal;

converting the output portion of the optical RZ transmission signal to an electrical signal;

establishing at least one of the power, the current and the voltage of the electrical signal in a narrow frequency band around a frequency that corresponds to half the data rate; and

controlling the phase-synchronous supplying of at least one of the optical pulsed signal and the electrical data signal based on at least one of the established power, current and voltage values.

2. A method for phase-synchronous supplying as claimed in claim 1, the method further comprising the step of controlling the phase-synchronous supplying of the optical pulsed signal via a controllable optical delay time element.

3. A method for phase-synchronous supplying as claimed in claim 2, the method further comprising the steps of:

forming at least one control signal using at least one of the established power, current and voltage values; and

supplying the control signal to the to the controllable optical delay time element.

4. A method for phase-synchronous supplying as claimed in claim 1, the method further comprising the step of controlling the phase-synchronous supplying of at least one of the electrical data signal and of the electrical clock signal via a controllable electrical delay time element.

5. A method for phase-synchronous supplying as claimed in claim 3, the method further comprising the steps of:

forming at least one control signal using at least one of the established power, current and voltage values; and

supplying the control signal to the controllable electrical delay time element.

6. A method for phase-synchronous supplying as claimed in claim 1, wherein at least one of the power, the current and the voltage of the electrical signal for the frequency corresponding to half the data rate is determined via one of an electrical bandpass filter and a narrowband electrical amplifier.

7. A method for phase-synchronous supplying as claimed in claim 1, wherein the output portion of the optical RZ transmission signal is converted to an electrical signal via an optoelectrical transducer.

8. A method for phase-synchronous supplying as claimed in claim 7, wherein the optoelectrical transducer is a photodiode.

9. A method for phase-synchronous supplying as claimed in claim 2, the method further comprising the step of, before being supplied to the electrooptical modulator, varying the delay time of the optical pulsed signal via the controllable optical delay time element.

10. A method for phase-synchronous supplying as claimed in claim 4, the method further comprising the step of, before being supplied to the electrooptical modulator, varying the delay time of at least one of the electrical data signal and the electrical clock signal via the controllable electrical delay time element.

11. A method for phase-synchronous supplying as claimed in claim 2, the method further comprising the step of maximizing, for control purposes, a fundamental of at least one of the established power, current and voltage values.

12. A method for phase-synchronous supplying as claimed in claim 11, wherein a mathematical sign of a control error is determined by wobbling an operating point of the controllable optical delay time element.

13. A method for phase-synchronous supplying as claimed in claim 4, the method further comprising the step of maximizing, for control purposes, a fundamental of at least one of the established power, current and voltage values.

14. A method for phase-synchronous supplying as claimed in claim 13, wherein a mathematical sign of a control error is determined by wobbling an operating point of the controllable electrical delay time element.

15. A method for phase-synchronous supplying as claimed in claim 4, wherein the controllable electrical delay time element is an electrically adjustable, broadband phase shifter.

16. A method for phase-synchronous supplying of at least one of an electrical data signal to an electrooptical modulator and of an optical NRZ transmission signal to a pulse transformer which transforms the optical NRZ transmission signal to an optical RZ transmission signal, the NRZ transmission signal being produced in the electrooptical modulator from an optical signal and from the electrical data signal, the pulse transformer being synchronized to the electrical data signal via an electrical clock signal, the method further comprising the steps of:

outputting a portion of the optical RZ transmission signal;

converting the output portion of the optical RZ transmission signal to an electrical signal;

establishing at least one of the power, the current or the voltage of the electrical signal in a narrow frequency band around a frequency that corresponds to half the data rate, and

controlling the phase-synchronous supplying of at least one of the optical NRZ transmission signal and the electrical data signal based on at least one of the established power, current or voltage values.

17. A method for phase-synchronous supplying as claimed in claim 16, the method further comprising the step of controlling the phase-synchronous supplying of the optical NRZ transmission signal via a controllable optical delay time element.

18. A method for phase-synchronous supplying as claimed in claim 17, the method further comprising the steps of:

forming at least one control signal using at least one of the established power, current and voltage values; and

supplying the control signal to the to the controllable optical delay time element.

19. A method for phase-synchronous supplying as claimed in claim 16, the method further comprising the step of controlling the phase-synchronous supplying of at least one of the electrical data signal and of the electrical clock signal via a controllable electrical delay time element.

20. A method for phase-synchronous supplying as claimed in claim 19, the method further comprising the steps of:

forming at least one control signal using at least one of the established power, current and voltage values; and

supplying the control signal to the controllable electrical delay time element.

21. A method for phase-synchronous supplying as claimed in claim 16, wherein at least one of the power, the current and the voltage of the electrical signal

for the frequency corresponding to half the data rate is determined via one of an electrical bandpass filter and a narrowband electrical amplifier.

22. A method for phase-synchronous supplying as claimed in claim 16, wherein the output portion of the optical RZ transmission signal is converted to an electrical signal via an optoelectrical transducer.

23. A method for phase-synchronous supplying as claimed in claim 22, wherein the optoelectrical transducer is a photodiode.

24. A method for phase-synchronous supplying as claimed in claim 17, the method further comprising the step of, before transformation by the optical pulse transformer, varying the delay time of the optical NRZ transmission signal via the controllable optical delay time element.

25. A method for phase-synchronous supplying as claimed in claim 19, the method further comprising the step of, before transformation by the optical pulse transformer, varying the delay time of at least one of the electrical data signal and of the electrical clock signal via the controllable electrical delay time element.

26. A method for phase-synchronous supplying as claimed in claim 17, the method further comprising the step of maximizing, for control purposes, a fundamental of at least one of the established power, current and voltage values.

27. A method for phase-synchronous supplying as claimed in claim 26, wherein a mathematical sign of a control error is determined by wobbling an operating point of the controllable optical delay time element.

28. A method for phase-synchronous supplying as claimed in claim 19, the method further comprising the step of maximizing, for control purposes, a fundamental of at least one of the established power, current and voltage values.

29. A method for phase-synchronous supplying as claimed in claim 28, wherein a mathematical sign of a control error is determined by wobbling an operating point of the controllable electrical delay time element.

30. A method for phase-synchronous supplying as claimed in claim 19, wherein the controllable electrical delay time element is an electrically adjustable, broadband phase shifter.